

## WHAT IS CLAIMED IS:

1. In a base station (BS) having at least two amplifiers for amplifying transmit power for a mobile station (MS), a method of controlling the amplifiers,  
5 comprising the steps of:

deciding an amplifier to be enabled or disabled between the at least two amplifiers; and

enabling or disabling the decided amplifier.

10 2. The method of claim 1, wherein the step of deciding an amplifier to be enabled or disabled comprises:

deciding the amplifier to be enabled or disabled according to an input from the operator; and

determining whether the decision of the amplifier to be enabled or disabled  
15 according to the input from the operator is right or wrong.

3. The method of claim 2, wherein the step of determining whether the decision of the amplifier to enabled or disabled according to the input from the operator is a right or wrong decision comprises:

20 comparing the number of required amplifiers with the total number of amplifiers to be enabled, the number of required amplifiers being calculated according to required power and amplifier characteristics and the total number of amplifiers to be enabled being calculated according to the decision of the amplifier to be enabled or disabled.

25

4. The method of claim 3, further comprising:

enabling as many amplifiers as required if the total number of amplifiers to be enabled is greater than the number of required amplifiers.

30 5. The method of claim 3, further comprising:

outputting an error message indicating that the decision of the amplifier to enabled or disabled according to the input from the operator is a wrong decision if the

total number of amplifiers to be enabled is less than the number of required amplifiers.

6. The method of claim 1, wherein the step of deciding an amplifier to be enabled or disabled comprises:

5 determining automatically an amplifier to be enabled or disabled by calculating the number of required amplifiers according to required power and amplifier characteristics.

7. The method of claim 6, wherein the calculation is carried out at every  
10 predetermined time intervals.

8. The method of claim 7, wherein the predetermined time interval is set by the operator.

15 9. The method of claim 8, wherein the step of deciding an amplifier to be enabled or disabled comprises:

comparing the number of current operating amplifiers with the number of required amplifiers; and

disabling redundant amplifiers, if the number of current operating amplifiers is  
20 greater than the number of required amplifiers.

10. The method of claim 9, further comprising:  
enabling as many unused amplifiers as necessary if the number of current operating amplifiers is less than the number of required amplifiers..

25

11. The method of claim 1, wherein the step of deciding an amplifier to be enabled or disabled comprises:

setting a time period by the operator; and

deciding, for the time period, the amplifier to be enabled or disabled .  
30 according to an input from the operator.

12. The method of claim 11, wherein the step of deciding an amplifier to

be enabled or disabled comprises:

deciding the amplifier to be enabled or disabled according to the ID of an amplifier input by the operator.

5           13.       The method of claim 12, further comprising:  
determining whether the decision of the amplifier to be enabled or disabled is right or wrong.

10           14.       The method of claim 13, wherein the step of determining whether the  
decision of the amplifier to enabled or disabled is a right or wrong decision comprises:  
comparing the number of required amplifiers with the total number of  
amplifiers to be enabled, the number of required amplifiers being calculated according  
to required power and amplifier characteristics and the total number of amplifiers to be  
enabled being calculated according to the decision of the amplifier to be enabled or  
15 disabled.

            15.       The method of claim 14, further comprising:  
enabling as many amplifiers as required if the total number of amplifiers to be  
enabled is greater than the number of required amplifiers.

20           16.       The method of claim 14, further comprising:  
outputting an error message indicating that the decision of the amplifier to  
enabled or disabled is a wrong decision if the total number of amplifiers to be enabled is  
less than the number of required amplifiers.

25           17.       The method of claim 11, wherein the step of deciding an amplifier to  
be enabled or disabled comprises:  
determining automatically an amplifier to be enabled or disabled by calculating  
the number of required amplifiers according to required power and amplifier  
30 characteristics.

18.       In a base station (BS) having at least two amplifiers for amplifying

transmit power for a mobile station (MS), an apparatus for controlling the amplifiers, comprising:

a channel combiner for measuring total power for each sector of the BS; and

5 a sleep mode operator for deciding whether to enable or disable the at least two amplifiers based on the measured power.

19. The apparatus of claim 18, wherein the sleep mode operator comprises:

10 a storage for storing parameters needed for control of the amplifiers and the number of current operating amplifiers;

a calculator for calculating the number of required amplifiers based on required power, the number of the operating amplifiers, and a predetermined compensation parameter; and

15 a controller for controlling the at least two amplifiers to be in the enable or disable states according to the number of required amplifiers according to a predetermined algorithm.

20. The apparatus of claim 18, wherein the sleep mode operator decides the amplifier to be enabled or disabled according to an input from the operator and  
20 determines whether the decision of the amplifier to be enabled or disabled according to the input from the operator is right or wrong.

21. The apparatus of claim 20 wherein the sleep mode operator makes the decision of whether the decision of the amplifier to be enabled or disabled according to  
25 the input from the operator is right or wrong by comparing the number of required amplifiers with the total number of amplifiers to be enabled, the number of required amplifiers being calculated according to required power and amplifier characteristics and the total number of amplifiers to be enabled being calculated according to the decision of the amplifier to be enabled or disabled.

30

22. The apparatus of claim 21, wherein the sleep mode operator enables as many amplifiers as required if the number of required amplifiers is greater than the total

number of amplifiers to be enabled.

23. The apparatus of claim 21, wherein the sleep mode operator outputs an error message indicating that the decision of the amplifier to enabled or disabled  
5 according to the input from the operator is a wrong decision if the number of required amplifiers is less than the total number of amplifiers to be enabled.

24. The apparatus of claim 18, wherein the sleep mode operator automatically decides the amplifier to be enabled or disabled by calculating the number  
10 of required amplifiers according to required power and amplifier characteristics.

25. The apparatus of claim 24, wherein the sleep mode operator carries out the calculation at every predetermined time intervals.

15 26. The apparatus of claim 25, wherein the time interval is set by the operator.

27. The apparatus of claim 24, wherein the sleep mode operator compares the number of current operating amplifiers with the number of required amplifiers, and  
20 disables redundant amplifiers, if the number of current operating amplifiers is greater than the number of required amplifiers.

28. The apparatus of claim 27, wherein the sleep mode operator enables as many unused amplifiers as necessary if the number of current operating amplifiers is  
25 less than the number of required amplifiers.

29. The apparatus of claim 18, wherein the sleep mode operator receives a time period set by the operator and decides an amplifier to be enabled or disabled according to input from the operator for the time period.

30

30. The apparatus of claim 29, wherein the sleep mode operator decides the amplifier to be enabled or disabled according to the ID of an amplifier input by the

operator.

31. The apparatus of claim 30, wherein the sleep mode operator determines whether the decision of the amplifier to be enabled or disabled is right or  
5 wrong.

32. The apparatus of claim 31, wherein the sleep mode operator compares the number of required amplifiers with the total number of amplifiers to be enabled, the number of required amplifiers being calculated according to required power and  
10 amplifier characteristics and the total number of amplifiers to be enabled being calculated according to the decision of the amplifier to be enabled or disabled.

33. The apparatus of claim 32, wherein the sleep mode operator enables as many amplifiers as required if the total number of amplifiers to be enabled is greater  
15 than the number of required amplifiers.

34. The apparatus of claim 32, wherein the sleep mode operator outputs an error message indicating that the decision of the amplifier to enabled or disabled is a wrong decision if the total number of amplifiers to be enabled is less than the number of  
20 required amplifiers.

35. The apparatus of claim 29, wherein the sleep mode operator automatically decides the amplifier to be enabled or disabled by calculating the number of required amplifiers according to required power and amplifier characteristics.